

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE <div style="text-align: center;">J</div>		PAGE OF PAGES <div style="text-align: center;">1 9</div>	
2. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">0002</div>		3. EFFECTIVE DATE <div style="text-align: center;">17-Aug-2005</div>		4. REQUISITION/PURCHASE REQ. NO. <div style="text-align: center;">W16ROE-5193-5928</div>		5. PROJECT NO. (If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, NEW YORK ATTN: CENAN-CT ROOM 1843 26 FEDERAL PLAZA NEW YORK NY 10278		CODE <div style="text-align: center;">W912DS</div>		7. ADMINISTERED BY (If other than item 6) <div style="text-align: center; font-weight: bold;">See Item 6</div>			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. W912DS-05-R-0015	
				X		9B. DATED (SEE ITEM 11) 21-Jul-2005	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) The purpose of this amendment is to: (i) make changes to the plans and specifications as specified on the SF30 Continuation page (ii) to provide responses to questions for informational purposes only (iii) to change the due date for receipt of proposals from 22 August 2005 to 24 August 2005 at 2:00 P.M. (iv) request that all questions be submitted by 19 August 2005 at 2:00 P.M. Note: Bidders must acknowledge receipt of this amendment by the date specified in the solicitation (or as amended) by one of the following methods: In the space provided on the SF1442, by separate letter, or by telegram, or by signing the block 15 below. FAILURE TO ACKNOWLEDGE AMENDMENTS BY THE DATE AND TIME SPECIFIED MAY RESULT IN REJECTION OF YOUR BID IN ACCORDANCE WITH THE LATE BID, LATE MODIFICATIONS OF BIDS OR LATE WITHDRAWAL OF BIDS (FAR 14.304)							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 17-Aug-2005	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGESAMENDMENT 0002

1. The following changes shall be made:

SPECIFICATIONS

- a. SECTION 00700: Omit paragraph 52.211-12a.
- b. SECTION 00800: Omit Paragraph 12 c
- c. SECTION 01140: Paragraph 1.3.4 has been clarified. Remove previously issued section 01140 in its entirety and replace it with new section 01140 herein.
- d. SECTION 01270: Paragraph 2.2 has been clarified. Remove previously issued section 01270 in its entirety and replace it with new section 01270 herein.
- e. SECTION 01310: Paragraph 1.5.4.7 has been clarified. Remove previously issued section 01310 in its entirety and replace it with new section 01310 herein.
- f. SECTION 01420: Paragraph 4.0 has been clarified. Remove previously issued section 01420 in its entirety and replace it with new section 01420 herein.
- g. SECTION 02220: Omit Paragraph 3.1.8.a
- h. SECTION 02300: Omit Paragraph 3.3.2
- i. SECTION 03150: Paragraph 2.2.2.c has been clarified. Remove previously issued section 013150 in its entirety and replace it with new section 013150 herein.
- j. SECTION 00110, Section 2.2: Delete the words, "Form F". On Past Performance Customer Questionnaire

_____change the phone number for Scott Helmer to 917-790-8082.

The following drawings, bearing the revision date of August 15, 2005, supersede drawings bearing the same number and title:

<u>DRAWING FILE NO</u>	<u>SHEET REFERENCE NUMBER/TITLE</u>
7687-16464	T1-03 WORK AREA PHASING PLAN: PLAN AT SEATING DECK
7687-16474	A1-05 PLAN: PART NORTHWEST STANDS AND EGRESS PATH
7687-16475	A2-01 ELEVATION: NORTH AND SOUTH TOWERS AND PARTIAL FACADE
7687-16477	A3-02 STADIUM SECTION: NORTH STANDS
7687-16479	A4-01 RESTORATION DETAILS: TYPICAL CONCRETE DETAILS, SHEET 1
7687-16480	A4-02 RESTORATION DETAILS: TYPICAL CONCRETE DETAILS, SHEET 2

DRAWING FILE NO

7687-16486

SHEET REFERENCE NUMBER/TITLE

A7-02 STADIUM SIGNAGE: SIGN DETAILS

Responses to Questions (for informational purposes only)

1. Section 00800.11.c. Please confirm temporary heat would not be required in the building (under the stands) when there is no work being performed in these areas.

Response: There is no temporary heat required.

2. Section 00800.43.b and c. call for video taping of buildings not related with this project. Please verify.

Response: Video taping shall be limited to the stadium and the surrounding property as defined in 00800.43.a. Paragraphs 00800.43.b and c should be omitted.

3. Section 00800.44.f and g. Please confirm these personnel not required as defined works are not part of this project.

Response: Special Inspectors for Masonry and Stone Cladding are not required. There is masonry work in the project, but the quantity and complexity of the work does not require the attention of a special inspector. Refer to Section 04200 for requirements.

4. Section 01110.1.1.1.2 and 1.1.1.3. Please advise if “all” or “portion” of the existing bolts and inserts to be removed & replaced.

Response: All existing bolts and anchors are to be removed as indicated on details.

Paragraph 01110.1.1.1.2 refers to the bolts and anchors currently supporting the benches. All such bolts and anchors are to be removed

Paragraph 01110.1.1.1.3 refers to those portions of the original bench bolts and anchors that are not currently supporting the benches but are still embedded in the concrete. Refer to details 1A and 1B on drawings A4-02, which shows the level of removal required for these bolts. These bolts occur throughout the area of work at 4'-0"OC

All bolts, anchors or portions thereof are to be removed as detailed.

5. Section 01110.1.1.1.4 and Section 02220.1.2. Site inspection reveals that existing concrete seating deck has had series of coatings applied over the years with materials similar to thick polyurethane and waterproofing coating with thicknesses ranging to 1/8". It also seems that existing coating has already been tested. Is it possible to get a copy of the test report indicating type & thicknesses of the existing coating?

Response: No such information is available. Conditions vary from place to place.

6. Section 01110.1.1.4.4. Provide details of storm water evacuation system. Does this include confined space entry to clean the drainage structures?

Response: Yes.

7. Section 01110.1.1.4.2. Advise if electric conduit & wiring under the bleachers to be relocated during expansion of new egress passageway. Also confirm that metal bleacher modification is

limited to cutting & reinstalling the existing bleachers w/o providing new material. If so, please provide name of existing bleacher manufacturer.

Response: Yes, electrical conduit and wiring under the bleaches will be relocated to accommodate new egress passageways.

Response: There is some miscellaneous steel needed to achieve the modification. See details on A5-01. Also, there is new steel required for screens, See details on A5-02

Response: We do not have the name of the bleacher manufacturer

8. Section 01270.2.2. Please verify item numbers as Schedule of Prices has only 11 items, not 23.

Response: Please follow the unit price schedule

9. Section 01420.4.0. Please advise if Site Superintendent could be the same person as the Site Safety Officer, providing that this person has the required qualifications.

Response: The Site Safety Officer cannot be the same person as either the Site Supervisor or the quality control officer. However, the Site Supervisor may also be the Quality Control Officer

10. Section 01575.1.1. Advise if Project Manager, Superintendent or CQC could also be Environmental Manager with required qualifications. The superintendent may also be the quality control officer

Response: The Site Safety Officer cannot be the same person as either the Site Supervisor or the quality control officer. However, the Site Supervisor may also be the Quality Control Officer

11. Section 02220.2.1.3. Confirm that the C.O. will make the final material decision on the product to be used only if "or equal" product is submitted, not if one the specified products is submitted.

Response: Yes. The paragraph is in reference to "or equal" products submitted only.

12. Section 02220.3.1.8.a. Requirement of "...patching existing holes and depressions caused by previous damage..." is too generic description of work. Please provide location & details of this work on drawings with details.

Response: Paragraph 02220.3.1.8.a, shall be removed. Patching quantities shall be calculated per unit price schedule.

13. Section 02300.3.3.2 requires contractor to hire a Geotechnical P.E. during excavations. Since there is not much excavation and no sheeting, piling, dewatering works involved, is the P.E. still required?

Response: No Geotechnical engineer is required on site

14. Section 03150.2.2.2.c. Please clarify "...to 00 degrees C..." Is it 40 degrees C?

Response: Yes 40 degrees C.

15. Section 03300.1.4.1. Please confirm if CQC is indeed to be ACI Certified.

Response: Yes ACI Certification is required.

16. Section 03350.2.3. Please advise if coating specified is applicable to all seating deck area that the existing coating is removed to bare concrete, or only for repaired areas. Also advise if “penetrating corrosion inhibitor” in para. 2.3.1 is required both for seating deck, and reinforced concrete areas.

Response: The coating materials are for all portions of the seating deck where existing coatings are being removed. The coatings are also required at the parapets, aisles and cement plaster facades.

Response: The penetrating corrosion inhibitor is for all portions of the seating deck, which is typically reinforced concrete. The term “other reinforced concrete surfaces” is referring to the reinforced concrete parapets, aisles and field wall. The penetrating corrosion inhibitor is also to be applied to those surfaces

Response: The new reinforced concrete retaining walls and curbs are not intended to receive coatings or the corrosion inhibitor.

Response: New reinforced concrete structural repairs made below the seating decks are not being coated or protected with the corrosion inhibitor in this project

17. Section 03350.3.1.6. Confirm that Bid Items 0004 (SD-3) and 0005 (SD-4) do not include re-bar splicing, as this is separately shown in Bid Item 0009.

Response: SD-3 includes re-bar cleaning. SD-4 includes re-bar replacement. Unit price item 0009 is for unforeseen conditions.

18. Section 05500.2.1.6 calls for new seat brackets (stanchions) to exactly match existing brackets. Please advise name of the bracket manufacturer. Otherwise, it needs to be mold-formed from existing bracket.

Response: Selected bidder will be provided with an existing bracket to prepare a mold.

19. Section 09900.1.9.2 calls for “...also existing coated surfaces made bare by cleaning operations...” Does concrete seating deck fall into this category, as this area to receive new coating per Section 03350.2.3. We believe Section 009900 is limited to painting of railings, exposed conduit, doors & frames, perforated fence, and seating lettering. Also confirm that no other material/surfaces under the seating deck to be painted, except repaired steel beams.

Response: Section 09900 does not address the seating deck.

Response: With the exception of repaired steel beams, no painting or coatings are expected below the seating decks.

20. Section 13280 Asbestos Survey also shows Ticket Booths and Women’s Bathroom contain asbestos. Confirm that these areas are N.I.C., and abatement is limited to areas shown on Drawing EV-01 and para. 1.3.1,

Response: Ticket booths and Women Toilet room are not in the scope of this phase of work

21. Section 13280. Please confirm lead removal is limited to where indicated on Dwg. EV-01, as Lead Paint Inspection Report shows many areas contain lead above the 1.0 mg/cm. sq. limit, and para.1.3.1 calls for removal of lead from surfaces as shown in Appendix A (Lead Report).

Response: Drawing EV-01 shows the components noted in Appendix A (Lead Report) that are included in this phase of work

22. T1-02 and A1-01. Structural repairs to columns 56C, 46D and 40D. Are they in Base Bid (Item 0001), or in Items 0002 thru 0009?

Response: This is base bid work

23. T1-02. Also provide means & methods for cleaning of 10" x 22" open channel between Columns 1 – 59. Advise if it is accessible and requires confined space entry.

Response: Access is through manholes in the field level horizontal aisle at the North stands and from the concourse under the South stands. It is confined space entry.
The channel collects silt and debris. Means and Methods can be proposed by contractor. Care must be taken not to wash debris down stream into storm water system

24. T1-03. Work Area 5D calls for cutting seats and providing new concrete steps. However, these works are not shown on A1-04. Please check & verify.

Response: The new concrete steps are at the western end of area 5D and show on detail 5 / A1-05. The seats being cut back are the bleachers at the junction of areas 5D and 6B

25. A3-02 Detail 3. Referenced detail 11/A4-01 is missing in Dwg. A4-01.

Response: Reference should be to detail 11 / A2-01

Response: This work is being bid as bid option 1. See amendment 1.

26. A3-02 Detail 1. Referenced detail 4/A3-02 is for concrete stair, not drainage (trough) trench. Correct reference to be 4/A3-01.

Response: Correct. Detail should have referenced 4 / A3-01

27. AD-01, Legend Note 2 and 2.1. Work requires additional end caps, as removed caps would not be enough to cover newly cut & exposed edges. Advise manufacturer's name.

Response: Correct. Additional end caps will be needed. They are an aluminum extrusion. We do not have the name of the manufacturer

28. A1-02, Legend Note 1. Are concrete beam repairs in Base Bid (Item 0001), or in Items 0002 thru 0009?

Response: Concrete beam repairs indicated by note 1 on A1-02 are in the base bid

29. A1-02, Legend Note 2, and S6-01 Detail 1 and 1D. Please advise if this area is accessible for equipment. We were not able to go under the stands at site visit, but observed from the distance that there seems to be only 2' – 3' headroom.

Response: Correct. Height is limited. Concrete will need to be pumped into this area. Earth removal will be needed to install detail.

30. A1-03 & A4-02. There are more than 14,000 bolts at seat stanchions. Are all the bolts to be removed entirely by cutting and coring out, or only the bolts to be relocated? If so, which ones to be relocated. Also, will the new bolts to be installed at existing (cored out and repaired) locations, or at different locations?

Response: All the existing bolts are to be removed entirely by cutting and coring. Reuse of the existing holes is preferred but not specifically required. The coring bit called for is larger than the epoxy anchor to ease installation of the new anchors. If the contractor determines to relocate the anchor holes, patching of the original holes is to be included with the base bid.

31. A4-02, Detail 1A shows removal of "oval flange." Please advise location on the plans, as none shown and none observed at the site.

Response: We believe the oval flange occurs typically. They are not obvious because they are covered by previous layers of coatings. We expect they will become visible when the coatings are removed. They are to be cored out to a depth of 2 inches and patched. These bolts are at 4'-0" OC throughout. The coring and patching is base bid work.

32. A1-03, Note 4. Confirm that all 1924 parapet walls, inside & outside of field walls to receive new concrete coating, in addition to seating deck.

Response: Yes. Coating is required on the parapet walls and the field wall on both the inside and outside faces

Response: This work is being bid as bid option 1. See amendment 1

33. A1-04, Note 16. Is the repair work in Base Bid (Item 0001), or in Items 0002 thru 0009?

Response: The concrete repairs are covered as part of the unit price schedule. The coping replacement and new pipe rails are base bid work.

Response: This work is being bid as bid option 1. See amendment 1

34. A2-01, Note 4. Confirm not in Base Bid, and in Items 0006 thru 0008.

Response: Yes. Not in base bid. Work included with unit price items

35. A3-02, Detail 3. Provide extent of work on plans. Is it limited to Note 14 on A1-04?

Response: Refer to detail 11/A2-01

36. A1-04. Provide width of new extended aisle between Column line 17 & 19 (7'-6" as scaled?).

Response: See Detail 1 / AD-01.

37. A1-05, Detail 2. Arrow above column C is missing legend number.

Response: Keynote 9, 1/2 inch expansion joint at both top and bottom of stair

38. A-105, Detail 3. Ditto, but on column B.

Response: This is just an extraneous line.

39. A2-10, Note 13 and Photo No. 1. Confirm concrete crack and spalling repairs are not in Base Bid Item 0001.

Response: A2-01: The installation of the new control joint as described in keynote 13 is base bid work. Any crack repairs to the cement plaster face of the wall is covered as part of the unit price schedule.

40. A3-02, Detail 3. Reference Detail 11/A4-01 should be Detail 11/A2-01.

Response: Yes. Detail 11 / A2-01 is correct

41. A7-02, Details 2 and 6. Referenced Detail sheet A7-03 to be corrected as A7-02.

Response: Yes, References are to A7-02

42. Section 03150 Preformed Expansion Joints. Please advise joint width. Drawing A4-01 Detail 13A Joint width is shown as "varies" and width is not shown anywhere else.

Since the specified system is very expensive, joint width is extremely important.

Response: 1 inch typically, but verify width in field prior to ordering material.

43. Drawing A4-01 Detail 13A also shows a vertical information indicating the deck thickness as: "Deck on Grade: 2" @ Tread and Riser, Deck on Beam: 3" @ Tread, 5" Riser." Please confirm if these are deck thicknesses,

Response: These are intended to be the deck thicknesses. They are corrected as follows:

On the elevated deck, the tread thickness varies from 3 ½ inches to 3 inches, pitching from riser to edge of tread. The riser is consistently 5 inches.

On the deck supported by grade, the tread thickness is a minimum of 4 inches at the face of the riser and are as thick as the riser height plus 4 inches at the edge of the tread. The riser thickness is not applicable. See detail 8 / A4-01.

44. On Drawing A4-02, the bolt removal detail indicates removal of the bolt and anchor. The specifications 1.1.1.2 indicates the same thing. Note 1 on drawing A1-04 indicates the removal of the bolt only. After the site inspection we feel that many bolts could be removed without taking out the embedded anchor. The question is, will we be able to leave the existing embedded anchors and reuse them when possible or do all the anchors have to be cored out and replaced.

Response: Please anticipate the removal of all anchors.

45. Who is responsible to contract with Daktronics, The contractor or the government?

Response: The contractor. See General note 1 drawing E1-01

46. At the site inspection last week, it was stated that there was a survey done on the number of bolts that are in the stadium seating for this portion of the project. Can we get a copy?

Response: The count is shown on detail 1A / A4-02.
Also, please see responses to questions 4 and 31.

47. In the specs two forms of coating removal are specified. Can we, at our option use a different means of removing the coating from the stands?

Response: Any other coating removal system is subject to review and approval as an "or equal" during the submittal phase. Pricing a coating removal system other than one of the two specified is at the contractors risk. Or equal analysis will include (but not be limited to) environmental issues and clean-up procedures.

48. On drawing E1-02 you show a pull box with outlets on the square steel bollard. Drawing A5-01 detail shows a $\frac{3}{4}$ inch conduit coming through the bollard and into the back of the pull box. The radius of the $\frac{3}{4}$ inch conduit will not allow for a 90 degree bend and still have room for the box to sit flush. Can a smaller conduit (1/2 inch) or a piece of flexible conduit be used?

Response: The square steel bollard is 6 inches in width. The minimum bending radius (according to NEC) for a $\frac{3}{4}$ inch conduit is 4 $\frac{1}{2}$ inches. The conduit does not have to be centered in the bollard as shown on the architectural detail. Given the above, we believe the radius can be achieved and the box can still sit flush.

49. "Section 02220 Demolition, para. 3.1.8. Please confirm that cost for repairing surfaces damaged during removal of existing concrete deck coating and masonry walls is also included in Bid Schedule Items 0002AA thru 0008, as this quantity is also unknown."

Response: No! Damages *revealed* when the coating is removed are covered under the unit price schedule, as the exact quantity is an unknown. However, the coating removal process is to be mocked-up and tested to assure that damage to the substrate does not occur "*during removal of existing concrete deck coating*". Should the contractor damage the deck during the removal process due to improper technique or material; the deck will be repaired at the contractors cost.

50. Section 00110, Section 2.2, Volume II states to include in this volume "Form F". We do not find a Form F in the package. Please clarify.

Response: The words, "Form F" have been deleted from this section.

SECTION 00010 - SOLICITATION CONTRACT FORM

The required response date/time has changed from 22-Aug-2005 02:00 PM to 24-Aug-2005 02:00 PM.

(End of Summary of Changes)

NOTICE TO BIDDERS

Failure of any bidder to
To acknowledge receipt
Of this Amendment in
Item 19 of Standard Form
1442 (Pg. 00010-2) may
result in REJECTION of
the bid.

Department of the Army
New York District
Corps of Engineers
New York, New York 10278-0090

AMENDMENT NO. 2 DATED AUGUST 15, 2005 FOR MICHIE STADIUM, WEST POINT
MILITARY ACADEMY, NY

TO BIDDERS

1. The following changes shall be made:

SPECIFICATIONS

- a. SECTION 00700: Omit paragraph 52.211-12a.
- b. SECTION 00800: Omit Paragraph 12 c
- c. SECTION 01140: Paragraph 1.3.4 has been clarified. Remove previously issued section 01140 in its entirety and replace it with new section 01140 herein.
- d. SECTION 01270: Paragraph 2.2 has been clarified. Remove previously issued section 01270 in its entirety and replace it with new section 01270 herein.
- e. SECTION 01310: Paragraph 1.5.4.7 has been clarified. Remove previously issued section 01310 in its entirety and replace it with new section 01310 herein.
- f. SECTION 01420: Paragraph 4.0 has been clarified. Remove previously issued section 01420 in its entirety and replace it with new section 01420 herein.
- g. SECTION 02220: Omit Paragraph 3.1.8.a
- h. SECTION 02300: Omit Paragraph 3.3.2
- i. SECTION 03150: Paragraph 2.2.2.c has been clarified. Remove previously issued section 013150 in its entirety and replace it with new section 013150 herein.

DRAWINGS

The following drawings, bearing the revision date of August 15, 2005, supersede drawings bearing the same number and title:

DRAWING FILE NO

7687-16464

SHEET REFERENCE NUMBER/TITLE

T1-03 WORK AREA PHASING PLAN: PLAN AT
SEATING DECK

<u>DRAWING FILE NO</u>	<u>SHEET REFERENCE NUMBER/TITLE</u>
7687-16474	A1-05 PLAN: PART NORTHWEST STANDS AND EGRESS PATH
7687-16475	A2-01 ELEVATION: NORTH AND SOUTH TOWERS AND PARTIAL FACADE
7687-16477	A3-02 STADIUM SECTION: NORTH STANDS
7687-16479	A4-01 RESTORATION DETAILS: TYPICAL CONCRETE DETAILS, SHEET 1
7687-16480	A4-02 RESTORATION DETAILS: TYPICAL CONCRETE DETAILS, SHEET 2
7687-16486	A7-02 STADIUM SIGNAGE: SIGN DETAILS

RAYENETTE GURNEY
Contracting Officer

SECTION 01140

WORK RESTRICTIONS

02/03

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Transportation of personnel, materials, and equipment; G

Purchase orders; G

1.2 SPECIAL SCHEDULING REQUIREMENTS

Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of the work. Specific items of work to which this requirement applies include:

- (1) Repair and refinishing of the the the Stadium seating and structures
- (2) New Steps, gates, roadway, and utiliites relocations
- c. The Facility will remain in operation during the entire construction period. The Contractor shall conduct his operations so as to cause the least possible interference with normal operations of the activity.
- d. Permission to interrupt any Activity roads, railroads, and/or utility service shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption.

1.3 CONTRACTOR ACCESS AND USE OF PREMISES

1.3.1 Activity Regulations

Ensure that Contractor personnel employed on the Activity become familiar with and obey Activity regulations including safety, fire, traffic and security regulations. Keep within the limits of the work and avenues of ingress and egress. Ingress and egress of Contractor vehicles at the Activity is limited to the designated gate. To minimize traffic congestion, delivery of materials shall be outside of peak traffic hours (6:30 to 8:00 a.m. and 3:30 to 5:00 p.m.) unless otherwise approved by the Contracting Officer. Wear hard hats in designated areas. Do not enter any restricted

areas unless required to do so and until cleared for such entry. The Contractor's equipment shall be conspicuously marked for identification.

1.3.1.1 Employee List

The Contractor shall provide to the Contracting officer, in writing, the names of two designated representatives authorized to request personnel and vehicle passes for employees and subcontractor's employees prior to commencement of work under this contract. The Contractor shall adhere to the requirements of "Important Clarifications - Contractors - How to Gain Access," dated 31 October 1995, in obtaining access to the Naval Air Station complex for the life of the contract. A copy of these requirements will be provided at the preconstruction

1.3.2 Working Hours

Regular working hours shall consist of an 8 hour period established by the Contractor Officer, between 7 a.m. and 3:30 p.m., Monday through Friday, and 7 a.m. to 11 p.m. on Saturday, excluding Government holidays.

1.3.3 Work Outside Regular Hours

Work outside regular working hours requires Contracting Officer approval. Make application 15 calendar days prior to such work to allow arrangements to be made by the Government for inspecting the work in progress, giving the specific dates, hours, location, type of work to be performed, contract number and project title. Based on the justification provided, the Contracting Officer may approve work outside regular hours. During periods of darkness, the different parts of the work shall be lighted in a manner approved by the Contracting Officer. Make utility cutovers after normal working hours or on Saturdays, Sundays, and Government holidays unless directed otherwise.

1.3.4 Exclusionary Period

No work shall be performed during the period the exclusionary period, without prior written approval of the Contracting Officer. This period is defined on Drawing T1-03 under Event Schedule, General Phasing Note.

1.3.5 Occupied and Existing Buildings

The Contractor shall be working around existing buildings which are occupied. Do not enter the buildings without prior approval of the Contracting Officer.

The existing buildings and their contents shall be kept secure at all times. Provide temporary closures as required to maintain security as directed by the Contracting Officer.

Provide dust covers or protective enclosures to protect existing work that remains and Government material located during the construction period.

Relocate movable furniture approximately 6 feet away from the Contractor's working area as required to perform the work, protect the furniture, and replace the furniture in its original locations upon completion of the work. Leave attached equipment in place, and protect it against damage,

or temporarily disconnect, relocate, protect, and reinstall it at the completion of the work.

The Government will remove and relocate other Government property in the areas of the buildings scheduled to receive work.

1.3.6 Utility Cutovers and Interruptions

- a. Make utility cutovers and interruptions after normal working hours or on Saturdays, Sundays, and Government holidays. Conform to procedures required in the paragraph "Work Outside Regular Hours."
- b. Ensure that new utility lines are complete, except for the connection, before interrupting existing service.
- c. Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, heating, fire alarm, compressed air, shall be considered utility cutovers pursuant to the paragraph entitled "Work Outside Regular Hours." Such interruption shall be further limited to 4 hours. This time limit includes time for deactivation and reactivation.
- d. Operation of Station Utilities: The Contractor shall not operate nor disturb the setting of control devices in the station utilities system, including water, sewer, electrical, and steam services. The Government will operate the control devices as required for normal conduct of the work. The Contractor shall notify the Contracting Officer giving reasonable advance notice when such operation is required.

1.4 TRANSPORTATION OF PERSONNEL, MATERIALS, AND EQUIPMENT

Coordinate arrangements for transporting materials, equipment, and personnel with the Contracting Officer. The Contractor has the option to use commercial or privately-owned transportation.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01270

MEASUREMENT AND PAYMENT
02/94

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 615/A 615M	(1996a) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM C 127	(1988; R 1993) Specific Gravity and Absorption of Course Aggregate
ASTM C 128	(1997) Specific Gravity and Absorption of Fine Aggregate
ASTM D 1250	(1980; R 1997) Petroleum Measurement Tables

1.2 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.3 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

PART 2 PRODUCTS

2.1 ESTIMATE OF QUANTITIES

The variation in Estimated Quantities - Subdivided items clause is applicable to Base Bid Items Nos. 002 through 0020 - inclusive and to Option No. OP02B.

2.2 SUBDIVIDED ITEMS CLAUSE

Variation from the estimated quantity in the actual work performed under any second or subsequent sub item or elimination of all work such a second or subsequent sub-item will not be the basis for an adjustment in contract unit price.

Where the actual quantity of work performed for items 002 through 011 and OP02B, inclusive, is less than 85% for the quantity of the first sub-item listed under such items, the Contractor will be paid at the contract unit price for the sub-item for the actual quantity of the work performed and, in addition, an equitable adjustment shall be made in accordance with the clause FAR 52.211.18, Variation in Estimated Quantities.

If the quantity of work performed under items nos. 002 through 011 and OP02B, inclusive, exceeds 115% or is less than 85% of the total estimated quantity of the sub-items under that item, and/or if the quantity of work performed under the second sub-item or any subsequent sub-items under item nos. 002 through 023 and OP02B exceeds 115% or is less than 85% of the estimated quantity of any such sub-item, and if such variations causes an increase or a decrease in the time required for the performance of this contract the contract completion time will be adjusted in accordance with clause FAR 52.211.18, Variation in Estimated Quantities.

PART 3 EXECUTION (Not Applicable)

-- End of Section --

SECTION 01310

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

15 CFR 772 Individual Validated Licenses and Amendments

15 CFR 773 Special Licensing Procedures

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

List of contact personnel; G

Existing conditions pictures;

Insurance; G

Personnel list; G

Vehicle list; G

Statement of Acknowledgement Form SF 1413; G

1.3 PROGRESS AND COMPLETION PICTURES

Provide monthly, and within one month of the completion of work, digital photographs, 1600x1200x24 bit true color 800 minimum resolution in JPEG file format showing the sequence and progress of work. Take digital photographs prior to the seventh day of each month from a minimum of ten views from points located by the Contracting Officer. Submit a sketch or drawing indicating points of view. Submit with the monthly invoice two sets of digital photographs each set on a separate CD-R, cumulative of all photos to date. Cross reference submittals in the appropriate daily report.

1.4 MINIMUM INSURANCE REQUIREMENTS

Procure and maintain during the entire period of performance under this contract the following minimum insurance coverage:

- a. Comprehensive general liability: \$500,000 per occurrence
- b. Automobile liability: \$200,000 per person, \$500,000 per occurrence for bodily injury, \$20,000 per occurrence for property damage
- c. Workmen's compensation as required by Federal and State workers' compensation and occupational disease laws.
- d. Employer's liability coverage of \$100,000, except in States where workers compensation may not be written by private carriers,
- e. Others as required by State law.

1.5 CONTRACTOR PERSONNEL REQUIREMENTS

1.5.1 Subcontractors and Personnel

Furnish a [list of contact personnel](#) of the Contractor and subcontractors including addresses and telephone numbers for use in the event of an emergency. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

1.5.2 Identification Badges

Refer to specification section 00800.16 for further information.

1.5.3 Subcontractor Special Requirements

1.5.3.1 Asbestos Containing Material

All contract requirements of Section 13281, "Engineering Control of Asbestos Containing Materials" assigned to the Private Qualified Person (PQP) shall be accomplished directly by a first tier subcontractor.

1.5.4 Contractor Personnel Requirements

Failure to obtain entry approval will not affect the contract price or time of completion.

1.5.4.1 [Personnel List](#)

Submit for approval, at least 15 days prior to the desired date of entry, an original alphabetical list of personnel who require entry into Government property to perform work on the project. Furnish for each person:

- a. Name
- b. Date and place of birth
- c. Citizenship
- d. Home address

- e. Social security number
- f. Current pass expiration date
- g. Naturalization or Alien Registration number
- h. Passport number, place of issue, and expiration date

The request for personnel passes shall be accompanied with the following certification:

"I hereby certify that all personnel on this list are either born U.S. citizens, naturalized U.S. citizens with the naturalization number shown, or legal aliens with the alien registration number indicated."

Signature/Firm Name

1.5.4.2 Citizenship Requirements

Will not be admitted to the work site without approval. Clearance for aliens may require approximately 20 work days for approval.

1.5.4.3 Documents Acceptable for Proof of Citizenship

- a. Birth registration card
- b. Certificate of live birth, birth certificate
- c. Certificate of Naturalization
- d. Certificate of registration
- e. DD-214 (Must Cite Birthplace)
- f. DD Form 4 (Contract for Enlistment and Must Cite Birthplace)
- g. DD 1966 (Application for Enlistment)
- h. Military discharge papers (must cite birthplace)
- i. Delayed birth certificate
- j. Hawaii certificate of foreign birth
- k. Hospital birth certificate
- l. Marriage license certificate
- m. Merchant marine certificate
- n. Military officer ID card
- o. Notification of birth registration
- p. State of Hawaii ID card

- q. USA passport
- r. Verbal inquiry with State of Hawaii Vital Statistics Office

1.5.5.4 Vehicle List

submit an original list of vehicles to be utilized at the work site with the following information for each vehicle:

- a. Make
- b. Year
- c. Model
- d. License number
- e. Registered owner

1.5.4.5 Passes

Submit request for personnel and vehicle passes together. Include the Certificate of Insurance for Contractor and Subcontractor(s) and the [Statement of Acknowledgement Form SF 1413](#) with the submittal. Passes will normally be issued within 21 days.

1.5.4.6 Control

Maintain strict accountability over passes. Immediately report to the source of issue, passes missing or lost and the circumstances. If the Contractor has another active contract or one commencing immediately, employees' names may be transferred from one contract to the other. Final payment will not be effected until employees are transferred to another contract or the records are cleared. Furnish a signed letter, countersigned by the source of issue, stating that passes have been turned in.

1.5.4.7 SUPERVISION

Provide at least one (1) qualified Project Manager and one (1) on-site Project Superintendent. The Project Manager must have a minimum 10 years experience as a Project Manager or Superintendent on projects like this contract or similar in size and complexity. The Project Superintendent must have a minimum of 10 years experience as a Superintendent on projects similar in size and complexity.

In addition to the above experience requirements, the Project Manager and on-site Project Superintendent shall complete the course entitled "Construction Quality Management for Contractors" prior to the start of construction. This 2-day course will be offered locally and must be taken one (1) month in advance. Contact the Contracting Officer to schedule attendance in the course.

The Project Manager in this context shall mean the individual with the responsibility for the overall management of the project and the Project Superintendent shall mean the individual with the responsibility for quality and production. Both the Project Manager and Project

Superintendent are subject to removal by the Contracting Officer for non-compliance with requirements specified in the contract and for failure to manage the project to insure timely completion. Furthermore, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time for excess costs or damages by the Contractor.

Approval of Project Manager and on-site Project Superintendent is required prior to start of construction. Provide resumes for the proposed Project Manager and on-site Project Superintendent describing their experience with references and qualifications to the Contracting Officer for approval. The Contracting Officer reserves the right to interview the proposed Project Manager and on-site Project Superintendent at any time in order to verify the submitted qualifications.

1.6 PRECONSTRUCTION CONFERENCE

After award of the contract but prior to commencement of any work at the site, meet with the Contracting Officer to discuss and develop a mutual understanding relative to the administration of the value engineering and safety program, preparation of the schedule prices, shop drawings, and other submittals, scheduling programming, and prosecution of the work. Major subcontractors who will engage in the work shall also attend.

1.7 PARTNERING

LEVEL C PARTNERING: To most effectively accomplish this contract, the Government requires the formation of a cohesive partnership with the Contractor and its subcontractors. The partnership will draw on the strength of each organization in an effort to achieve a quality project done right the first time, within budget, on schedule, and without any safety mishaps. This level of partnering discusses partnering concepts and benefits and should become a part of the preconstruction conference. The senior ROICC and senior Contractor persons present will jointly host the partnering sessions. The partners will determine the frequency of the follow-on sessions. Partnering sessions should be held at or near the location of the ROICC office.

1.10 AVAILABILITY OF CADD DRAWING FILES

After award and upon request, the electronic "Computer-Aided Drafting and Design (CADD)" drawing files will be made available to the Contractor for use in preparation of construction drawings and data related to the referenced contract subject to the following terms and conditions.

Data contained on these electronic files shall not be used for any purpose other than as a convenience in the preparation of construction drawings and data for the referenced project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor shall make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the Government, its agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor shall, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic CADD drawing files are not construction documents. Differences may exist between the CADD files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic CADD files, nor does it make representation to the compatibility of these files with the Contractors hardware or software. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished CADD files, the signed and sealed construction documents shall govern. The Contractor is responsible for determining if any conflict exists. Use of these CADD files does not relieve the Contractor of duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate the work of all contractors for the project.

If the Contractor uses, duplicates and/or modifies these electronic CADD files for use in producing construction drawings and data related to this contract, all previous indicia of ownership (seals, logos, signatures, initials and dates) shall be removed.

1.11 ELECTRONIC MAIL (E-MAIL) ADDRESS

The Contractor shall establish and maintain electronic mail (e-mail) capability along with the capability to open various electronic attachments in Microsoft, Adobe Acrobat, and other similar formats. Within 10 days after contract award, the Contractor shall provide the Contracting Officer a single (only one) e-mail address for electronic communications from the Contracting Officer related to this contract including, but not limited to contract documents, invoice information, request for proposals, and other correspondence. The Contracting Officer may also use email to notify the Contractor of base access conditions when emergency conditions warrant, such as hurricanes, terrorist threats, etc. Multiple email address will not allowed.

It is the Contractor's responsibility to make timely distribution of all Contracting Officer initiated e-mail with its own organization including field office(s). The Contractor shall promptly notify the Contracting Officer, in writing, of any changes to this email address.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01420

SAFETY
nyd 03/04

PART 1 SAFETY

The contractor shall comply with all applicable Federal, State, and local safety and occupational health laws and regulations. Applicable provisions of the Corps of Engineers manual entitled Safety and Health Requirements Manual EM 385-1-1, 3 Nov 2003 (with latest changes as of bid date) will be applied to all work under this contract. The referenced manual may be purchased from the U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328, or via the internet at www.USACE.army.mil.

1.1 U.S. ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1:

This paragraph applies to contracts and purchase orders that require the Contractor to comply with EM 385-1-1 (e.g. contracts that include the Accident Prevention Clause at FAR 52.236-13 and/or safety provisions). EM 385-1-1 and its changes are available at <http://www.hq.usace.army.mil> (at the HQ homepage, select Safety and Occupational Health and then select Changes to EM). The Contractor shall be responsible for complying with the current edition and all changes posted on the web as set in this solicitation.

2.0 ACCIDENT PREVENTION PROGRAM: Within fifteen (15) calendar days after receipt of Notice to Proceed, and at least ten (10) calendar days prior to the Preconstruction Safety Conference, four (4) copies of the Accident Prevention Plan shall be submitted for review and acceptance by the Contracting Officer or the Contracting Officers Representative (COR). The accident prevention program shall be prepared in the format outlined in Appendix A of EM 385-1-1, "Minimum Basic Requirements for Accident Prevention Plan".

3.0 HAZARD ANALYSIS: Prior to beginning each major phase of work, an Activity Hazard Analysis shall be prepared by the Contractor performing that work, and submitted for review and acceptance. The format shall be in accordance with EM 385-1-1, figure 1-2. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new contractor or work crew is to perform. (See Contractor Quality Control specification for further guidance regarding coordination of "Activities" and "Principal Steps" indicated in the Activity Hazard Analysis with Contractor Quality Control activities). The analysis shall define the activities to be performed and identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the activity hazard analysis has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the government on-site representative(s). The activity hazard analyses shall be continuously reviewed and when appropriate modified to address changing site conditions or operations, with the concurrence of the site safety representative, the site

superintendent, and the Contracting Officer. Activity hazard analyses shall be attached to and become part of the accident prevention plan or may be developed prior to each phase of work undertaken in the contract and attached to the Quality Control reports.

3.1 Hazard analysis shall be used to identify and evaluate all substances, agents, or environments that present hazards and recommend control measures. Engineering and administrative controls shall be used to control hazards; in cases where engineering or administrative controls are not feasible, personal protective equipment may be used.

3.2 Information contained in MSDS (Material Safety Data Sheets) shall be incorporated in the hazard analysis for the activities in which hazardous or toxic materials will be used, or generated (e.g. fiberglass, crystalline silica, metal dust or fume, etc.)

4.0 **SITE SAFETY OFFICER:** The contractor shall identify an individual directly employed by the contractor as Site Safety Officer (SSO) responsible to the Contractor to implement and continually enforce the Accident Prevention Plan. The site safety officer shall not be the same individual as the Quality Control System Manager. The site safety officer shall have the authority to suspend operational activities if the health and safety of personnel are endangered, and to suspend an individual from operational activities for infractions of the Accident Prevention Plan. Additional safety staff or alternate SSO may be assigned as determined by the Contractor. Alternate SSO must meet the same qualifications as the SSO.

4.1. The name, qualifications (training and experience) of the designated Site Safety Officer shall be included in the Accident Prevention Plan. The Site safety officer shall have the following qualifications:

- a. A minimum of 5 years construction experience with at least 2 years experience in implementing safety programs at construction work sites for projects of comparable scope and complexity.

- b. Documented experience in construction techniques and construction safety procedures.

- c. Working knowledge of Federal and state occupational health and safety regulations.

- d. Specific training in excavation safety, fall protection, and confined space.

- e. CPR/First Aid certification (current).

- f. Familiarity with and ability to use and implement the Corps of Engineers Safety Manual EM 385-1-1.

- g. Successful completion within last 5 years (or as required by OSHA) of 10-hour OSHA Construction Safety Class.

4.2. Other Requirements: Other sections of the contract documents may also require separate specially qualified individuals in such areas a chemical data acquisition, sampling and analysis, medical monitoring, industrial hygiene, quality control, etc. Contractor must comply with all safety

requirements.

5.0 SITE INSPECTIONS: The site safety officer shall perform frequent inspections of the job sites and the work in progress to ensure compliance with EM 385-1-1 and to determine the effectiveness of the accident prevention plan. In addition, Quality Control personnel shall conduct and document daily safety inspections. Daily inspection logs shall be used to document inspections noting safety and health deficiencies, deficiencies in the effectiveness of the accident prevention plan, and corrective actions including timetable and responsibilities. The daily inspection logs will be attached to and submitted with the Daily Quality Control Reports or may be incorporated in the daily CQC report. Each entry shall include date, work area checked, employees present in work area, protective equipment and work equipment in use, special safety and health issues and notes, and signature of the preparer.

6.0 HIGHLIGHTED PROVISIONS: In addition to those items contained in EM 385-1-1, Appendix A, include the following items in the accident prevention plan:

6.1 Hard Hat Area. A statement that the jobsite is classified a "hard hat" area

6.2 Sanitation and Medical Requirements. Estimate the greatest number of employees, supervisors, etc., to be working at peak construction period, including subcontractor personnel. Include sanitation requirements and medical facilities identified for the job site. If a medical facility or physician is not accessible within five minutes of an injury to a group of two or more employees for the treatment of injuries, identify at least two or more employees on each shift who are qualified to administer first aid and CPR.

6.3 Equipment Inspection. The type of inspection program on cranes, trucks, and other types of construction equipment the Contractor plans to implement. Who will be responsible for the inspection and how the Contractor will control equipment of sub-contractors and equipment bought to the site by rental companies. Types of records to be kept.

6.3.1 Copies of records of all equipment inspections will be kept at the job site for review by the designated authority.

6.4 Crane & Derrick Operators: Written proof of qualification for all crane and derrick operators in accordance with EM 385-1-1, 16.C.05. Qualification shall be by written (or oral) examination and practical operating examination unless the operator is licensed by a state or city licensing agency for the particular type of crane or derrick. Proof of qualification shall be provided by the qualifying source.

7.0 ACCIDENT REPORTS: The contractor shall immediately report all accidents by telephone to the COR.

7.1 The Contractor will provide an initial written report of the accident to the COR within 24 hours. The Contractor shall complete and submit ENG Form 3394 for all accidents involving lost work time, medical treatment, and/or property damage in excess of \$2000.00 within 48 hours of the accident. The report shall accurately represent the circumstances of the accident, cause of the accident, extent of medical treatment, extent of injuries and steps to prevent occurrence of similar accidents. The

hazard analysis covering the work activity being undertaken during the accident shall be attached to the report.

7.2 Daily records of all first aid treatment not otherwise reportable shall be maintained at the job site and furnished to the designated authority upon request. Records shall also be maintained of all exposure and accident experience incidental to the work (OSHA Form 300 or equivalent as prescribed by 29 CFR 1904).

8.0 **MONTHLY EXPOSURE REPORTS:** The Contractor shall submit to the COR no later than the 1st day of each month, a compilation of manhours worked each month by the prime contractor and each subcontractor. In addition, the contractor shall report the number of accidents, severity, class of accidents, and lost time work days for each month.

9.0 **CLEAN-UP:** The Contractor's Accident Prevention Plan shall identify the individual's responsible for cleanup and shall establish a regular housekeeping procedure and schedule. If the COR determines that cleanup is not being performed satisfactorily, the Contractor shall establish a work crew to perform the continuous cleanup required by the contract clause titled: CLEANING UP: The number of individuals appointed to the cleanup work crew shall be increased as required in order to render adequate cleanup.

10.0 **FOCUS AREAS:** To supplement and emphasize the requirements of EM 385-1-1, the following is provided and shall be met as applicable.

10.1 Electrical Work: Electrical work shall not be performed on or near energized lines or equipment unless specified in the plans and specifications and approved by the COR. Plan and layout of proposed temporary power to the construction site shall be submitted and approved by the COR before work will be permitted.

10.1.1 Upon request by the Contractor, arrangements will be made for de-energizing lines and equipment so that work may be performed. All outages shall be requested through the COR a minimum of 14 days, unless otherwise specified, prior to the beginning of the specified outages. Dates and duration will be specified.

10.2 If approved by the COR, the following work may be performed with the lines energized using certified hot line equipment on lines above 600 volts, when the following conditions have been met:

- a. work below the conductors no closer than the clearance required in EM 385-1-1 from the energized conductors.
- b. setting and connection of new pre-trimmed poles in energized lines which do not replace an existing pole.
- c. setting and removing transformers or other equipment on poles.
- d. installation or removal of hot line connectors, jumpers, dead-end insulators for temporary isolation, etc., which are accomplished with hot line equipment from an insulated bucket truck.

10.3 Energized Line Work Plan: The Contractor shall submit a plan, in writing, describing his/her method of operation and the equipment to be

used on energized lines. Proper certification from an approved source of the safe condition of all tools and equipment will be provided with the plan. The work will be planned and scheduled so that proper supervision is maintained. Emergency procedures, including communication, for disconnecting power in the event of an accident will be outlined in the plan. The Contractor will review his/her plan with the COR prior to being granted permission to perform the work.

10.4. No work on lines greater than 600 volts will be performed from the pole or without the use of an insulated bucket truck.

10.5 No work will be done on overbuilt lines while underbuilt lines are energized, except for temporary isolation and switching.

10.6 Electrical Tools and Cords: Hand held electrical tools shall be used only on circuits protected by ground fault circuit interrupters for protection of personnel. All general use extension cords shall be hard usage or extra hard usage. Damaged or repaired cords shall not be permitted.

10.7 Temporary electrical distribution systems and devices shall be checked and found acceptable for polarity, ground continuity, and ground resistance before initial use and after modification. GFI outlets shall be installed and tested with a GFI circuit tester (tripping device) prior to use. Portable and vehicle mounted generators shall be inspected for compliance with EM 385-1-1 and NFPA 70. All electrical equipment located outdoors or in wet locations shall be enclosed in weatherproof enclosures in accordance with EM 385-1-1. Records of all tests and inspections will be kept by the contractor and made available on site for review by the designated authority. Submit sketch of proposed temporary power for acceptance.

10.8 Seat belts and ROPS shall be installed on all construction equipment. The operating authority will furnish proof from the manufacturer or licensed engineer that ROPS meets the applicable SAE standards cited in EM 385-1-1, pg. 302.

10.9 Radiation Permits or Authorizations: Contractors contemplating the use of a licensed or DOD regulated radiological device or radioactive material on a DOD installation will secure appropriate permit or authorization from the Department of Army or Department of the Air Force, as applicable. A 45-day lead-time should be programmed for obtaining the necessary authorization or permit. When requested, the COR will assist the Contractor in obtaining the required permit or authorization.

10.9.1 The Contractor shall develop and implement a radiation safety program to comply with EM 385-1-1, Section 06.E. Provisions for leak tests, authorized personnel, transport certificates, etc. will be addressed in the radiation safety program.

10.10 Elevating Work Platforms: All elevating work platforms shall be designed, constructed, maintained, used, and operated in accordance with ANSI A92.3, ANSI A92.6, ANSI A92.5 and EM 385-1-1, Sections 22.J.

10.10.1 Only personnel trained in the use of elevating work platforms shall be authorized to use them. A list of authorized users will be maintained by the contractor at the job site. The list will be updated to remain current and made available for review on site by the designated

authority. Personnel safety belts must be worn.

10.11 Fall Protection: Fall protection in the form of standard guardrails, nets, or personal fall arrest systems will be provided for all work conducted over 6 feet in height. The contractor will submit his/her proposed method of fall protection to the COR as part of the Job Hazard Analysis for acceptance. If the contractor deems that conventional fall protection as described above is not feasible, or creates a greater hazard, the Contractor will prepare a written fall protection plan in accordance with OSHA 29 CFR 1926.502(k). The plan will demonstrate the reasons that conventional fall protection is unfeasible or constitutes a greater hazard and will provide alternative safety measures for review and acceptance by the COR.

10.12 Excavations: All open excavations made in the earth's surface four (4) foot or greater will be under the supervision of a competent person trained in, and knowledgeable about, soils analysis, the use of protective systems, and the requirements of OSHA 29 CFR 1926, Subpart P and EM 385-1-1, Section 25. The competent person shall be designated in writing by the Contractor and a resume of their training and experience submitted to the COR for acceptance.

10.12.1 Excavations hazards and methods for their control will be specified in the job hazard analysis.

10.12.2 Sloping and benching: The design of sloping and benching shall be selected from and in accordance with written tabulated data, such as charts and tables. At least one copy of the tabulated data will be maintained at the job site.

10.12.3 Support Systems: shall be in accordance with one of the systems outlined in a through c below:

a. Designs drawn from manufacturer's specifications and in accordance with all specifications, limitations, and recommendations issued or made by the manufacturer. A copy of the manufacturer's specifications, recommendations, and limitations will be in written form and maintained at the job site.

b. Designed by a registered engineer. At least one copy of the design shall be maintained at the job site during excavation.

c. Designs selected from and in accordance with tabulated data (such as tables and charts). At least one copy of the design shall be maintained at the job site during excavation.

10.12.4 Excavations Greater than 20 Feet in Height: Sloping and benching or support systems shall be designed by a registered professional engineer. Designs shall be in writing and at least one copy of the design shall be maintained at the job site during excavation. The contractor will ensure that the registered professional engineer is working within a discipline applicable to the excavation work; i.e. it would be inappropriate for an electrical engineer to approve shoring designed for an excavation.

10.13 Confined Space: Entry into and work in a confined space will not be allowed when oxygen readings are less than 19.5% or greater than 23.5% or if the lower explosive limit (LEL) reading is greater than 10%, unless these conditions are adequately addressed in the confined space entry plan.

In addition, action levels for toxic atmospheres shall be determined and any other known or potential hazards eliminated prior to entry.

11.0 **LANGUAGE:** For each group that has employees that do not speak English, the Contractor will provide a bilingual foreman that is fluent in the language of the workers. The contractor will implement the requirements of EM 385-1-1, 01.B through these foremen.

12.0 **CONTRACTOR SAFETY MEETINGS AND DOCUMENTATION:** Contractor shall conduct and document safety meetings among its personnel as required by EM 385-1-1 and as indicated herein. Monthly meetings shall be held among all supervisors, and weekly meetings shall be conducted by supervisors or foreman for all workers. The agenda of the meeting shall include specific safety items pertinent to work being performed. Documentation shall include a summary of items discussed as well as other items required by the EM 385-1-1. Documentation shall be submitted to the Government monthly.

13.0 **COORDINATION WITH OTHER SPECIFICATION SECTIONS:** The requirements of this section are meant to supplement requirements of other sections. In cases of discrepancies the most stringent requirements shall apply. Other safety-related requirements can be found in the following specification sections:

- a. Specification Section 00800, Special Contract Requirements
- b. Specification Section 00700, Contract Clauses, paragraph entitled "accident Prevention"
- c. Specification Section entitled "Contractor Quality Control"
- d. Other specifications or contract requirements relating to site safety or health requirement or medical monitoring.

14.0 **CONTRACTOR PERFORMANCE APPRAISAL:** The occurrence of accidents and near misses due to negligence are strong indications that there has been insufficient emphasis on effective implementation and/or commitment to the accident prevention program. Should it become obvious that only lip service is being given to this program, an interim unsatisfactory performance appraisal rating will be issued. If safety continues to be unsatisfactory or marginal, the unsatisfactory rating will become final. The contractor should be aware that this appraisal will be stored in a national computer database which can be accessed by a multitude of agencies or municipalities desiring information on prospective contractors. An unsatisfactory rating in this database may affect the contractor's ability to obtain future Government work.

-- End of Section --

SECTION 02220

DEMOLITION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6 (1990; R 1998) Safety Requirements for Demolition Operations

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61-SUBPART M National Emission Standard for Asbestos

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (1996) Safety and Health Requirements Manual

U.S. DEFENSE LOGISTICS AGENCY (DLA)

DLA 4145.25 (June 2000) Storage and Handling of Liquefied and Gaseous Compressed Gases and Their Full and Empty Cylinders

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Contracting Officer. Remove rubbish and debris from the project site; do not allow accumulations inside or outside the buildings. The work includes removal to the limits indicated on the construction documents existing surface finishes in the designated seating areas of the stadium, removal and storage of the stadium seating and support brackets demolition, existing portions of the stadium concrete bleacher treads and risers, existing steel supported bleacher and stair sections, fencing, light poles and conduit, concrete retaining walls and slabs, and existing asphalt paving. Rubbish and debris shall be removed from Government property daily, unless otherwise directed by the Contracting Officer, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Contracting Officer. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections. In the interest of conservation, salvage shall be pursued to the maximum extent possible (in accordance with Section 01572 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT, if applicable; salvaged items and materials

shall be disposed of as specified.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Existing Finish Removal Vehicle; G, AESD-

SD-04 Samples

Mock-up: Existing Finish Removal Vehicle on ConcreteG, AE
Mock-up: Existing Finish Removal Vehicle on Cement PlasterG, AE
Mock-up: Existing Finish Removal Vehicle on MetalG, AE

Physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-07 Certificates

Demolition plan; G

Notifications; G

Notification of Demolition and Renovation forms; G

Submit proposed demolition and removal procedures to the Contracting Officer for approval before work is started.

SD-11 Closeout Submittals

Receipts

Receipts or bills of lading, as specified.

1.4 REGULATORY AND SAFETY REQUIREMENTS

Comply with Federal, State, and Local laws and regulations in the hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," safety requirements shall conform with ANSI A10.6.

1.4.1 Notifications

1.4.1.1 General Requirements

Furnish timely notification of demolition and renovation projects to Federal, State, regional, and local authorities in accordance with 40 CFR 61-SUBPART M and the Contracting Officer in writing 10 working days prior to the commencement of work.

1.5 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris and do not create a nuisance or hazard in the immediate and surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the work area daily.

1.6 PROTECTION

1.6.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Notify the Contracting Officer 10 calendar days prior to beginning such work.

1.6.2 EXISTING WORK

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government; any damaged items shall be repaired or replaced as approved by the Contracting Officer at no additional cost to the Government. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement must have Contracting Officer approval.

1.6.3 WEATHER PROTECTION

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas so as to ensure effectiveness and to prevent displacement.

1.6.4 TREES

Trees within the project site which might be damaged during demolition, and which are indicated to be left in place, shall be protected by a 6 foot high fence. The fence shall be securely erected a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the work under this contract shall be replaced in kind or as approved by the

Contracting Officer at no additional cost to the Government.

1.6.5 FACILITIES

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Contracting Officer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract at no additional cost to the Government.

1.6.6 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area at no additional cost to the Government.

1.6.7 Playing Field

No vehicular traffic will be allowed on the playing field except as specifically approved by the Contracting Officer. At the Contracting Officer's discretion a John Deer Gator type vehicle with "turf" tires may be approved for vehicular traffic on the playing field.

1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.8 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by the Contracting Officer at no additional cost to the Government.

1.9 REQUIRED DATA

Demolition plan shall include procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation, and of the sequence of operations. Include statements affirming Contractor inspection of the existing roof deck where shown on the documents and its suitability to perform as a safe working platform or if inspection reveals

a safety hazard to workers, state provisions for securing the safety of the workers throughout the performance of the work. The procedures shall provide for safe conduct of the work in accordance with EM 385-1-1.

1.11 ENVIRONMENTAL PROTECTION

The work shall comply with the requirements of Section 01355 ENVIRONMENTAL PROTECTION.

1.12 USE OF EXPLOSIVES

Use of explosives will not be permitted.

1.13 AVAILABILITY OF WORK AREAS

Areas in which the work is to be accomplished will be available in accordance with the schedule as issued by the Contracting Officer:

PART 2 PRODUCTS

2.1 EXISTING STADIUM CONCRETE COATING AND EXISTING PAINTED PIPE RAILING REMOVAL SYSTEMS

The existing paint on the stadium pipe railings contain lead. All aspects of Section 13282 must be adhered to.

2.1.1 SPONGE-JET DRY SYSTEM (235 Heritage Avenue, Suite 2, Portsmouth NH 03801 Phone 603 431-6434)

- a. Air Compressor: 375 CFM or larger air compressor delivering not less than 80-90 psi clean, dry air (ASTM 04285-83)
- b. Media Feed Unit : As mfg. by Sponge-Jet (603-431-6435)
- c. Media Classifier: As mfg. by Sponge-Jet (603-431-6435)
- d. Bull Hose: 2 inch minimum inside diameter
- e. Blast Hose: 1 1/4" inch ID and accompanying deadman controls and connection lines.
- f. Blast nozzle: #8 (1/2 inch)
- g. Materials: Sponge-Jet Sponge Media as required from the following: Silver Sponge Media #16 ALOX

2.1.2 TORBO WET ABRASIVE BLASTING SYSTEM (Keizer Technologies Americas, Inc., 10908 S. Pipeline Road, Euless, TX, 76040, Phone 817-685-7090)

- a. Skid Mounting with Padeyes: The skid will be complete with forklift rails for transporting with a 10,000 pound capacity forklift, and four(4) padeyes for lifting with a crane.
- b. Blastpot: The blastpot shall be ASME certified with an allowable vessel pressure of 175 psi and a minimum capacity of 11.3 cubic feet.

c. Inhibitor Injection: Injection ration of liquid rust inhibitor to water will be adjustable to accomodate various manufacturers. On/off controls will permit selection of inhibitor injection during wet abrasive/air and water/air evolutions.

d. Controls: Air and water mixture controls shall provide independent adjustments and control of abrasive/water mixture ratio, water, and air. remote controls located a minimum of 200 feet from the blast unit, to permit a single operator to select wet abrasive /air/water/air, air only and on/off pressure control to the blast hose.

e. Utility Requirements: Utility connections to allow connection to 120psig air, 60psig water, and 110 volt electrical sources. Abrasive hose used with the unit shall be 1 1/2 inches in diameter.

f. The tank may be filled with any type of blasting media heavier than water. Dry, moist, and wet blasting media may be used.

2.1.3 OR EQUAL PRODUCTS

a. "Or Equal" products will be evaluated based on a line item by line item comparison of either of the two methods listed above selected by the Contractor as a comparison. The Contracting Officer will make the final decision on the product to be used. Should the "or equal" system be approved, it is understood that that no additional costs or schedule extensions will be allowed by the Government.

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

3.1.1 Structures

Existing concrete retaining walls, concrete and metal stadium seating, metal bracket inserts, and slabs and walks shall be removed in their entirety. Remove and store metal stadium seating and seating brackets at the direction of the Contracting Officer.

3.1.2 Utilities and Related Equipment

Remove existing utilities as indicated and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Contracting Officer. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area. Remove meters and related equipment and deliver to a location in accordance with instructions of the Contracting Officer. If utility lines are encountered that are not shown on drawings, contact the Contracting Officer for further instructions.

3.1.3 Paving and Slabs

Remove as indicated existing sidewalks, concrete and asphaltic concrete paving and slabs including aggregate base as indicated in their entirety.

Provide neat sawcuts at limits of pavement removal as indicated.

3.1.4 Reroofing

When removing the existing roofing system from the roof deck as indicated, remove only as much roofing as can be recovered by the end of the work day, unless approved otherwise by the Contracting Officer. No opening in the roof cover shall be attempted in threatening weather and any opening made shall be resealed prior to suspension of work the same day.

3.1.5 Masonry

Sawcut and remove masonry so as to prevent damage to surfaces to remain and to facilitate the installation of new work. Where new masonry adjoins existing, the new work shall abut or tie into the existing construction as indicated.

3.1.6 Concrete

Saw concrete along straight lines to a depth of not less than 2 inches. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete.

3.1.7 Airfield Lighting

Not Used

3.1.8 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish. Patching shall be as specified and indicated.

3.1.9 Air Conditioning Equipment

Not Used

3.1.10 Cylinders and Canisters

Not Used

3.1.11 Locksets on Swinging Doors

The Contractor shall remove all locksets from all swinging doors indicated to be removed and disposed of. Contractor shall give the locksets to the Contracting Officer after their removal.

3.1.12 Testing of the Existing Concrete Deck and Metal Railing Coatings Removal

Execute test samples of the removal system. Areas where samples are to be made shall be selected by the Contracting Officer.

- a. Additional samples shall be made until an acceptable result is achieved. Adjustments to treatment procedures shall be made in accordance with limits defined in manufacturer's recommendations. Do not proceed with work prior to approval of samples by the Contracting Officer. Samples shall be protected and retained during the work to serve as a standard for the full-scale work. Upon completion of the work, the samples may be accepted as part of the full-scale work or reworked at the discretion of the Contracting Officer.
- b. Specific procedures for treatment shall be as determined by test samples. The level of treatment shall be as approved in the test samples. The treatment shall not damage, erode, or discolor the specified surfaces. It is recognized that variations of the systems may be required as the job proceeds. However, no variation will be acceptable without written approval of the Contracting Officer.
- c. Treat surfaces in accordance with system supplier's recommendations. All media application shall be at pressures approved during test evaluation. Nozzle pressures, nozzle distance from wall, and media are to be as determined in approved standard of work test samples performed prior to award of contract. Media shall be contained, collected, and re-cycled.
- d. Any damage to the substrate material shall be repaired by the contractor at no additional cost to the Government

3.2 DISPOSITION OF MATERIAL

3.2.1 Title to Materials

Except where specified in other sections, all materials and equipment removed, and not reused, shall become the property of the Contractor and shall be removed from Government property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

The Government reserves the right of ownership for all removed components. Refused components become the property of the Contractor.

3.2.2 Reuse of Materials and Equipment

Remove and store materials and equipment indicated to be reused or relocated to prevent damage, and reinstall as the work progresses.

3.2.3 Salvaged Materials and Equipment

Remove materials and equipment that are indicated and specified to be removed by the Contractor and that are to remain the property of the Government, and deliver to a storage site as directed within 5 miles of the work site.

Contractor shall salvage items and material to the maximum extent possible.

Material salvaged for the Contractor shall be stored as approved by the Contracting Officer and shall be removed from Government property before completion of the contract. Material salvaged for the Contractor shall not be sold on the site.

Salvaged items to remain the property of the Government shall be removed in a manner to prevent damage, and packed or crated to protect the items from damage while in storage or during shipment. Items damaged during removal or storage shall be repaired or replaced to match existing items. Containers shall be properly identified as to contents. The following items reserved as property of the Government shall be delivered to the areas designated: Metal Stadium seating and brackets.

3.2.4 CLEANUP

Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

a. Cleanup

Keep work area in a clean and orderly condition at all times during the progress of the work. Remove rubbish, barriers, dirt, debris, tools, equipment, and unused materials from the site each day. Clean work area of all chemicals, dirt, and pollutants, and other materials washed off each day. Remove all treatment materials and empty containers from the site each day. After treatment has been completed, remove all protection including all tape, polyvinyl sheets, and strippable mask. Clean all glass of treatment residue, if any, and from all effects of treatment.

3.2.5 Debris and Rubbish

Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

-- End of Section --

SECTION 02300

EARTHWORK

07/04

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)

AASHTO T 180 (2001) Moisture-Density Relations of Soils
Using a 4.54-kg (10-lb) Rammer and an
457-mm (18-in) Drop

AASHTO T 224 (2001) Correction for Coarse Particles in
the Soil Compaction Test

AMERICAN WATER WORKS ASSOCIATION(AWWA)

AWWA C600 (1999) Installation of Ductile-Iron Water
Mains and Their Appurtenances

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M (2002) Structural Welding Code - Steel

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C2 (2001) Lumber, Timber, Bridge Ties and
Mine Ties - Preservative Treatment by
Pressure Processes

AWPA P5 (2002) Standard for Waterborne
Preservatives

ASTM INTERNATIONAL (ASTM)

ASTM A 139 (2000) Electric-Fusion (Arc)-Welded Steel
Pipe (NPS 4 and Over)

ASTM A 252 (1998; R 2002) Welded and Seamless Steel
Pipe Piles

ASTM C 136 (2001) Sieve Analysis of Fine and Coarse
Aggregates

ASTM C 33 (2003) Concrete Aggregates

ASTM D 1140 (2000) Amount of Material in Soils Finer

	than the No. 200 (75-micrometer) Sieve
ASTM D 1556	(2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(2002) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))
ASTM D 1883	(1999) CBR (California Bearing Ratio) of Laboratory-Compacted Soils
ASTM D 2167	(1994; R 2001) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2434	(1968; R 2000) Permeability of Granular Soils (Constant Head)
ASTM D 2487	(2000) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(2001) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 2937	(2000e1) Density of Soil in Place by the Drive-Cylinder Method
ASTM D 3017	(2001) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 422	(1963; R 2002) Particle-Size Analysis of Soils
ASTM D 4318	(2000) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 698	(2000a) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety -- Safety and Health Requirements
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U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 530/F-93/004	(1993; Rev O; Updates I, II, IIA, IIB, and III) Test Methods for Evaluating Solid Waste (Vol IA, IB, IC, and II) (SW-846)
EPA 600/4-79/020	(1983) Methods for Chemical Analysis of Water and Wastes

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS A-A-203

(Rev C; Notice 2) Paper, Kraft, Untreated

1.2 MEASUREMENT

1.2.1 Excavation

Not Used

1.2.2 Piping Trench Excavation

Not Used

1.2.3 Rock Excavation for Trenches

Rock excavation shall be measured and paid for by the number of cubic yards of acceptably excavated rock material. The material shall be measured in place, but volume shall be based on a maximum 30 inch width for pipes 12 inches in diameter or less, and a maximum width of 16 inches greater than the outside diameter of the pipe for pipes over 12 inches in diameter. The measurement shall include all authorized overdepth rock excavation as determined by the Contracting Officer. For manholes and other appurtenances, volumes of rock excavation shall be computed on the basis of 1 foot outside of the wall lines of the structures.

1.2.4 Topsoil Requirements

Not Used

1.2.6 Select Granular Material

Not Used

1.3 PAYMENT

Payment will constitute full compensation for all labor, equipment, tools, supplies, and incidentals necessary to complete the work.

1.3.1 Classified Excavation

Not Used

1.3.2 Piping Trench Excavation

Not Used

1.3.3 Rock Excavation for Trenches

Payment for rock excavation will be made in addition to the base bid, and will include all necessary drilling and all incidentals necessary to excavate and dispose of the rock. Select granular material, used as backfill replacing rock excavation, will not be paid for separately, but will be included in the unit price for rock excavation.

1.3.4 Unclassified Excavation

Not Used

1.3.5 Classified Borrow

Not Used

1.3.6 Unclassified Borrow

Not Used

1.4 DEFINITIONS

1.4.1 Satisfactory Materials

Satisfactory materials shall comprise any materials classified by [ASTM D 2487](#) as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, GM-GC, SW, SP, SM, SW-SM, SC, SW-SC, SP-SM. Satisfactory materials for grading shall be comprised of stones less than [8 inches](#), except for fill material for pavements and railroads which shall be comprised of stones less than [3 inches](#) in any dimension.

1.4.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; and material classified as satisfactory which contains root and other organic matter or frozen material. The Contracting Officer shall be notified of any contaminated materials.

1.4.3 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in [ASTM D 2487](#) as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are nonplastic. Testing required for classifying materials shall be in accordance with [ASTM D 4318](#), [ASTM C 136](#), [ASTM D 422](#), and [ASTM D 1140](#).

1.4.4 Degree of Compaction

Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum density obtained by the test procedure presented in [ASTM D 1557](#) abbreviated as a percent of laboratory maximum density. Since [ASTM D 1557](#) applies only to soils that have 30 percent or less by weight of their particles retained on the [3/4 inch](#) sieve, the degree of compaction for material having more than 30 percent by weight of their particles retained on the [3/4 inch](#) sieve shall be expressed as a percentage of the maximum density in accordance with [AASHTO T 180](#) Method D and corrected with [AASHTO T 224](#). To maintain the same percentage of coarse material, the "remove and replace" procedure as described in the NOTE 8 in Paragraph 7.2 of [AASHTO T 180](#) shall be used.

1.4.5 Topsoil

Material suitable for topsoils obtained from offsite areas is defined as: Natural, friable soil representative of productive, well-drained soils in the area, free of subsoil, stumps, rocks larger than [one inch](#) diameter, brush, weeds, toxic substances, and other material detrimental to plant

growth. Amend topsoil pH range to obtain a pH of 5.5 to 7.

1.4.6 Hard/Unyielding Materials

Weathered rock, dense consolidated deposits, or conglomerate materials which are not included in the definition of "rock" with stones greater than 12 inches in any dimension or as defined by the pipe manufacturer, whichever is smaller. These materials usually require the use of heavy excavation equipment, ripper teeth, or jack hammers for removal.

1.4.7 Rock

Solid homogeneous interlocking crystalline material with firmly cemented, laminated, or foliated masses or conglomerate deposits, neither of which can be removed without systematic drilling, and the use of expansion jacks or feather wedges, or the use of backhoe-mounted pneumatic hole punchers or rock breakers; also large boulders, buried masonry, or concrete other than pavement exceeding 1 cubic yard in volume. Removal of hard material will not be considered rock excavation because of intermittent drilling and blasting that is performed merely to increase production.

1.4.8 Unstable Material

Unstable material shall consist of materials too wet to properly support the utility pipe, conduit, or appurtenant structure.

1.4.9 Select Granular Material

1.4.9.1 General Requirements

Select granular material shall consist of materials classified as GW, GP, SW, or SP by ASTM D 2487 where indicated. The liquid limit of such material shall not exceed 35 percent when tested in accordance with ASTM D 4318. The plasticity index shall not be greater than 12 percent when tested in accordance with ASTM D 4318, and not more than 35 percent by weight shall be finer than No. 200 sieve when tested in accordance with ASTM D 1140. Coefficient of permeability shall be a minimum of 0.002 feet per minute when tested in accordance with ASTM D 2434.

1.4.10 Initial Backfill Material

Initial backfill shall consist of select granular material or satisfactory materials free from rocks 2.5 inches or larger in any dimension or free from rocks of such size as recommended by the pipe manufacturer, whichever is smaller.

1.4.11 Expansive Soils

Expansive soils are defined as soils that have a plasticity index equal to or greater than 25 when tested in accordance with ASTM D 4318.

1.4.12 Nonfrost Susceptible (NFS) Material

Nonfrost susceptible material shall be a uniformly graded washed sand with a maximum particle size of 2 inch and less than 5 percent passing the No. 200 size sieve, and with not more than 3 percent by weight finer than 0.02 mm grain size.

1.4.13 Pile Supported Structure

As used herein, a structure where both the foundation and floor slab are pile supported.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Dewatering Work Plan; G

Shoring and Sheeting Plan; G

SD-03 Product Data

Utilization of Excavated Materials; G

Rock Excavation; G

Procedure and location for disposal of unused satisfactory material. Proposed source of borrow material. Notification of encountering rock in the project. Advance notice on the opening of excavation or borrow areas.

SD-06 Test Reports; G

Testing

Borrow Site Testing

Within 24 hours of conclusion of physical tests, 4 copies of test results, including calibration curves and results of calibration tests. Results of testing at the borrow site.

SD-07 Certificates

Testing

Qualifications of the commercial testing laboratory or Contractor's testing facilities.

1.6 SUBSURFACE DATA

Subsurface soil boring logs are included in Appendix A of the Specifications. These data represent the best subsurface information available; however, variations may exist in the subsurface between boring locations.

1.7 CLASSIFICATION OF EXCAVATION

Excavation specified shall be done on a classified basis, in accordance with the following designations and classifications.

1.7.1 Common Excavation

Common excavation shall include the satisfactory removal and disposal of all materials not classified as rock excavation.

1.7.2 Rock Excavation

Rock excavation shall include blasting, excavating, grading, and disposing of material classified as rock and shall include the satisfactory removal and disposal of boulders 1 cubic yard or more in volume; solid rock; rock material that is in ledges, bedded deposits, and unstratified masses, which cannot be removed without systematic drilling and blasting; firmly cemented conglomerate deposits possessing the characteristics of solid rock impossible to remove without systematic drilling and blasting; and hard materials (see Definitions). The removal of any concrete or masonry structures, except pavements, exceeding 1 cubic yard in volume that may be encountered in the work shall be included in this classification. If at any time during excavation, including excavation from borrow areas, the Contractor encounters material that may be classified as rock excavation, such material shall be uncovered and the Contracting Officer notified by the Contractor. The Contractor shall not proceed with the excavation of this material until the Contracting Officer has classified the materials as common excavation or rock excavation and has taken cross sections as required. Failure on the part of the Contractor to uncover such material, notify the Contracting Officer, and allow ample time for classification and cross sectioning of the undisturbed surface of such material will cause the forfeiture of the Contractor's right of claim to any classification or volume of material to be paid for other than that allowed by the Contracting Officer for the areas of work in which such deposits occur.

1.7.3 BLASTING

No blasting will be permitted.

1.8 CRITERIA FOR BIDDING

Base bids on the following criteria:

- a. Surface elevations are as indicated.
- b. Pipes or other artificial obstructions, except those indicated, will not be encountered.
- e. Material character is indicated by the boring logs.
- f. Hard materials will be encountered in 40 percent of the excavations at depths of 8.5 feet through 14 feet below existing surface elevations.

1.9 DEWATERING WORK PLAN

Submit procedures for accomplishing dewatering work.

PART 2 PRODUCTS

2.1 REQUIREMENTS FOR OFFSITE SOILS

Offsite soils brought in for use as backfill shall be tested for TPH, BTEX and full TCLP including ignitability, corrosivity and reactivity. Backfill shall contain less than 100 parts per million (ppm) of total petroleum hydrocarbons (TPH) and less than 10 ppm of the sum of Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) and shall not fail the TCPL test. TPH concentrations shall be determined by using EPA 600/4-79/020 Method 418.1. BTEX concentrations shall be determined by using EPA 530/F-93/004 Method 5030/8020. TCLP shall be performed in accordance with EPA 530/F-93/004 Method 1311. Provide Borrow Site Testing for TPH, BTEX and TCLP from a composite sample of material from the borrow site, with at least one test from each borrow site. Material shall not be brought on site until tests have been approved by the Contracting Officer.

2.2 BURIED WARNING AND IDENTIFICATION TAPE

Metallic core or metallic-faced, acid- and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 6 inch minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

Warning Tape Color Codes

Red:	Electric
Yellow:	Gas, Oil; Dangerous Materials
Orange:	Telephone and Other Communications
Blue:	Water Systems
Green:	Sewer Systems

2.2.1 Warning Tape for Metallic Piping

Acid and alkali-resistant polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of tape shall be 0.003 inch. Tape shall have a minimum strength of 1500 psi lengthwise, and 1250 psi crosswise, with a maximum 350 percent elongation.

2.2.2 Detectable Warning Tape for Non-Metallic Piping

Polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of the tape shall be 0.004 inch. Tape shall have a minimum strength of 1500 psi lengthwise and 1250 psi crosswise. Tape shall be manufactured with integral wires, foil backing, or other means of enabling detection by a metal detector when tape is buried up to 3 feet deep. Encase metallic element of the tape in a protective jacket or provide with other means of corrosion protection.

2.3 DETECTION WIRE FOR NON-METALLIC PIPING

Detection wire shall be insulated single strand, solid copper with a minimum of 12 AWG.

2.5 CAPILLARY WATER BARRIER

Capillary Water Barrier shall consist of clean, poorly graded crushed rock,

crushed gravel, or uncrushed gravel placed beneath a building slab with or without a vapor barrier to cut off the capillary flow of pore water to the area immediately below. Fine aggregate grading shall conform to **ASTM C 33** with a maximum of 3 percent by weight passing **ASTM D 1140**, No. 200 sieve.

PART 3 EXECUTION

3.1 STRIPPING OF TOPSOIL

Where indicated or directed, topsoil shall be stripped to a depth of **6 inches**. Topsoil shall be spread on areas already graded and prepared for topsoil, or transported and deposited in stockpiles convenient to areas that are to receive application of the topsoil later, or at locations indicated or specified. Topsoil shall be kept separate from other excavated materials, brush, litter, objectionable weeds, roots, stones larger than **2 inches** in diameter, and other materials that would interfere with planting and maintenance operations. Any surplus of topsoil from excavations and grading shall be removed from the site.

3.2 GENERAL EXCAVATION

The Contractor shall perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Grading shall be in conformity with the typical sections shown and the tolerances specified in paragraph FINISHING. Satisfactory excavated materials shall be transported to and placed in fill or embankment within the limits of the work. Unsatisfactory materials encountered within the limits of the work shall be excavated below grade and replaced with satisfactory materials as directed. Such excavated material and the satisfactory material ordered as replacement shall be included in excavation. Surplus satisfactory excavated material not required for fill or embankment shall be disposed of in areas approved for surplus material storage or designated waste areas. Unsatisfactory excavated material shall be disposed of in designated waste or spoil areas. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times. Material required for fill or embankment in excess of that produced by excavation within the grading limits shall be excavated **from the borrow areas indicated or** from other approved areas selected by the Contractor as specified.

3.2.1 Ditches, Gutters, and Channel Changes

Excavation of ditches, gutters, and channel changes shall be accomplished by cutting accurately to the cross sections, grades, and elevations shown. Ditches and gutters shall not be excavated below grades shown. Excessive open ditch or gutter excavation shall be backfilled with satisfactory, thoroughly compacted, material or with suitable stone or cobble to grades shown. Material excavated shall be disposed of as shown or as directed, except that in no case shall material be deposited less than **4 feet** from the edge of a ditch. The Contractor shall maintain excavations free from detrimental quantities of leaves, brush, sticks, trash, and other debris until final acceptance of the work.

3.2.2 Drainage Structures

Excavations shall be made to the lines, grades, and elevations shown, or as directed. Trenches and foundation pits shall be of sufficient size to

permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. Rock or other hard foundation material shall be cleaned of loose debris and cut to a firm, level, stepped, or serrated surface. Loose disintegrated rock and thin strata shall be removed. When concrete or masonry is to be placed in an excavated area, the bottom of the excavation shall not be disturbed. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed. Where pile foundations are to be used, the excavation of each pit shall be stopped at an elevation 1 foot above the base of the footing, as specified, before piles are driven. After the pile driving has been completed, loose and displaced material shall be removed and excavation completed, leaving a smooth, solid, undisturbed surface to receive the concrete or masonry.

3.2.3 Drainage

Provide for the collection and disposal of surface and subsurface water encountered during construction. Completely drain construction site during periods of construction to keep soil materials sufficiently dry. The Contractor shall establish/construct storm drainage features at the earliest stages of site development, and throughout construction grade the construction area to provide positive surface water runoff away from the construction activity and/or provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein. It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed.

3.2.4 Dewatering

Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, operate dewatering system continuously until construction work below existing water levels is complete. Submit performance records weekly. Measure and record performance of dewatering system at same time each day by use of observation wells or piezometers installed in conjunction with the dewatering system. Relieve hydrostatic head in previous zones below subgrade elevation in layered soils to prevent uplift.

3.2.5 Trench Excavation Requirements

The trench shall be excavated as recommended by the manufacturer of the pipe to be installed. Trench walls below the top of the pipe shall be sloped, or made vertical, and of such width as recommended in the manufacturer's installation manual. Where no manufacturer's installation manual is available, trench walls shall be made vertical. Trench walls more than 3 feet high shall be shored, cut back to a stable slope, or provided with equivalent means of protection for employees who may be

exposed to moving ground or cave in. Vertical trench walls more than 3 feet high shall be shored. Trench walls which are cut back shall be excavated to at least the angle of repose of the soil. Special attention shall be given to slopes which may be adversely affected by weather or moisture content. The trench width below the top of pipe shall not exceed 24 inches plus pipe outside diameter (O.D.) for pipes of less than 24 inches inside diameter and shall not exceed 36 inches plus pipe outside diameter for sizes larger than 24 inches inside diameter. Where recommended trench widths are exceeded, redesign, stronger pipe, or special installation procedures shall be utilized by the Contractor. The cost of redesign, stronger pipe, or special installation procedures shall be borne by the Contractor without any additional cost to the Government.

3.2.5.1 Bottom Preparation

The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Bell holes shall be excavated to the necessary size at each joint or coupling to eliminate point bearing. Stones of 2 inches or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, shall be removed to avoid point bearing.

3.2.5.2 Removal of Unyielding Material

Where unyielding material is encountered in the bottom of the trench, such material shall be removed to the depth directed by the Contracting Officer below the required grade and replaced with suitable materials as provided in paragraph BACKFILLING AND COMPACTION.

3.2.5.3 Removal of Unstable Material

Where unstable material is encountered in the bottom of the trench, such material shall be removed to the depth directed and replaced to the proper grade with select granular material as provided in paragraph BACKFILLING AND COMPACTION. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the resulting material shall be excavated and replaced by the Contractor without additional cost to the Government.

3.2.5.4 Excavation for Appurtenances

Excavation for manholes, catch-basins, inlets, or similar structures shall be of sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. Rock shall be cleaned of loose debris and cut to a firm surface either level, stepped, or serrated, as shown or as directed. Loose disintegrated rock and thin strata shall be removed. Removal of unstable material shall be as specified above. When concrete or masonry is to be placed in an excavated area, special care shall be taken not to disturb the bottom of the excavation. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed.

3.2.5.5 Jacking, Boring, and Tunneling

Unless otherwise indicated, excavation shall be by open cut except that sections of a trench may be jacked, bored, or tunneled if, in the opinion of the Contracting Officer, the pipe, cable, or duct can be safely and properly installed and backfill can be properly compacted in such sections.

3.2.6 Underground Utilities

Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Perform work adjacent to non-Government utilities as indicated in accordance with procedures outlined by utility company. Excavation made with power-driven equipment is not permitted within **2 feet** of known Government-owned utility or subsurface construction. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Contracting Officer. Report damage to utility lines or subsurface construction immediately to the Contracting Officer.

3.2.7 Structural Excavation

Ensure that footing subgrades have been inspected and approved by the Contracting Officer prior to concrete placement. Excavate to bottom of pile cap prior to placing or driving piles, unless authorized otherwise by the Contracting Officer. Backfill and compact over excavations and changes in grade due to pile driving operations to 95 percent of **ASTM D 698** maximum density.

3.5 SHORING

3.5.1 General Requirements

The Contractor shall submit a **Shoring and Sheet piling plan** for approval 15 days prior to starting work. Submit drawings and calculations, certified by a registered professional engineer, describing the methods for shoring and sheeting of excavations. Shoring, including sheet piling, shall be furnished and installed as necessary to protect workmen, banks, adjacent paving, structures, and utilities. Shoring, bracing, and sheeting shall be removed as excavations are backfilled, in a manner to prevent caving.

3.6 GRADING AREAS

Where indicated, work will be divided into grading areas within which satisfactory excavated material shall be placed in embankments, fills, and required backfills. The Contractor shall not haul satisfactory material excavated in one grading area to another grading area except when so directed in writing. Stockpiles of satisfactory materials shall be placed and graded as specified. Stockpiles shall be kept in a neat and well drained condition, giving due consideration to drainage at all times. The ground surface at stockpile locations shall be cleared, grubbed, and sealed by rubber-tired equipment, excavated satisfactory and unsatisfactory materials shall be separately stockpiled. Stockpiles of satisfactory materials shall be protected from contamination which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes unsatisfactory, such material shall be removed and replaced with satisfactory material from approved sources.

3.7 FINAL GRADE OF SURFACES TO SUPPORT CONCRETE

Excavation to final grade shall not be made until just before concrete is to be placed. Only excavation methods that will leave the foundation rock in a solid and unshattered condition shall be used. Approximately level surfaces shall be roughened, and sloped surfaces shall be cut as indicated into rough steps or benches to provide a satisfactory bond. Shales shall be protected from slaking and all surfaces shall be protected from erosion resulting from ponding or flow of water.

3.8 GROUND SURFACE PREPARATION

3.8.1 General Requirements

Unsatisfactory material in surfaces to receive fill or in excavated areas shall be removed and replaced with satisfactory materials as directed by the Contracting Officer. The surface shall be scarified to a depth of 6 inches before the fill is started. Sloped surfaces steeper than 1 vertical to 4 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When subgrades are less than the specified density, the ground surface shall be broken up to a minimum depth of 6 inches, pulverized, and compacted to the specified density. When the subgrade is part fill and part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

3.8.2 Frozen Material

Material shall not be placed on surfaces that are muddy, frozen, or contain frost. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, or other approved equipment well suited to the soil being compacted. Material shall be moistened or aerated as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Minimum subgrade density shall be as specified in paragraph TESTING.

3.9 UTILIZATION OF EXCAVATED MATERIALS

Unsatisfactory materials removed from excavations shall be disposed of in designated waste disposal or spoil areas. Satisfactory material removed from excavations shall be used, insofar as practicable, in the construction of fills, embankments, subgrades, shoulders, bedding (as backfill), and for similar purposes. No satisfactory excavated material shall be wasted without specific written authorization. Satisfactory material authorized to be wasted shall be disposed of in designated areas approved for surplus material storage or designated waste areas as directed. Newly designated waste areas on Government-controlled land shall be cleared and grubbed before disposal of waste material thereon. Coarse rock from excavations shall be stockpiled and used for constructing slopes or embankments adjacent to streams, or sides and bottoms of channels and for protecting against erosion. No excavated material shall be disposed of to obstruct the flow of any stream, endanger a partly finished structure, impair the efficiency or appearance of any structure, or be detrimental to the completed work in any way.

3.10 BURIED TAPE AND DETECTION WIRE

3.10.1 Buried Warning and Identification Tape

Provide buried utility lines with utility identification tape. Bury tape 6

inches below finished grade.

3.10.2 Buried Detection Wire

Bury detection wire directly above non-metallic piping at a distance not to exceed 12 inches above the top of pipe. The wire shall extend continuously and unbroken, from manhole to manhole. The ends of the wire shall terminate inside the manholes at each end of the pipe, with a minimum of 3 feet of wire, coiled, remaining accessible in each manhole. The wire shall remain insulated over its entire length. The wire shall enter manholes between the top of the corbel and the frame, and extend up through the chimney seal between the frame and the chimney seal. For force mains, the wire shall terminate in the valve pit at the pump station end of the pipe.

3.11 BACKFILLING AND COMPACTION

Backfill adjacent to any and all types of structures shall be placed and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials to prevent wedging action or eccentric loading upon or against the structure. Ground surface on which backfill is to be placed shall be prepared as specified in paragraph PREPARATION OF GROUND SURFACE FOR EMBANKMENTS. Compaction requirements for backfill materials shall also conform to the applicable portions of paragraphs PREPARATION OF GROUND SURFACE FOR EMBANKMENTS, EMBANKMENTS, and SUBGRADE PREPARATION, and Section 02630 STORM DRAINAGE; and Section 02300 EARTHWORK. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment.

3.11.1 Trench Backfill

Trenches shall be backfilled to the grade shown. The trench shall not be backfilled until all specified tests are performed.

3.11.1.1 Replacement of Unyielding Material

Unyielding material removed from the bottom of the trench shall be replaced with select granular material or initial backfill material.

3.11.1.2 Replacement of Unstable Material

Unstable material removed from the bottom of the trench or excavation shall be replaced with select granular material placed in layers not exceeding 6 inches loose thickness.

3.11.1.3 Bedding and Initial Backfill

Initial backfill material shall be placed and compacted with approved tampers to a height of at least one foot above the utility pipe or conduit. The backfill shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to ensure thorough compaction of the fill under the haunches of the pipe. Except as specified otherwise in the individual piping section, provide bedding for buried piping in accordance with AWWA C600, Type 4, except as specified herein. Backfill to top of pipe shall be compacted to 95 percent of ASTM D 698 maximum density. Plastic piping shall have bedding to spring line of pipe. Provide materials as follows:

- a. Class I: Angular, 0.25 to 1.5 inches, graded stone, including a number of fill materials that have regional significance such as coral, slag, cinders, crushed stone, and crushed shells.
- b. Class II: Coarse sands and gravels with maximum particle size of 1.5 inches, including various graded sands and gravels containing small percentages of fines, generally granular and noncohesive, either wet or dry. Soil Types GW, GP, SW, and SP are included in this class as specified in ASTM D 2487.
- c. Clean, coarse-grained sand classified as SW or SP by ASTM D 2487 for bedding and backfill.
- d. Clean, coarsely graded natural gravel, crushed stone or a combination thereof identified as GW or GP in accordance with ASTM D 2487 for bedding and backfill. Maximum particle size shall not exceed 3 inches.

3.11.1.4 Final Backfill

The remainder of the trench, except for special materials for roadways, railroads and airfields, shall be filled with satisfactory material. Backfill material shall be deposited in layers of a maximum of 12 inch loose thickness, and compacted to 85 percent maximum density for cohesive soils and 90 percent maximum density for cohesionless soils. Compaction by water flooding or jetting will not be permitted. This requirement shall also apply to all other areas not specifically designated above.

3.11.2 Backfill for Appurtenances

After the manhole, catchbasin, inlet, or similar structure has been constructed and the concrete has been allowed to properly cure, backfill shall be placed in such a manner that the structure will not be damaged by the shock of falling earth. The backfill material shall be deposited and compacted as specified for final backfill, and shall be brought up evenly on all sides of the structure to prevent eccentric loading and excessive stress.

3.12 SPECIAL REQUIREMENTS

Special requirements for both excavation and backfill relating to the specific utilities are as follows:

3.10.1 Electrical Distribution System

Direct burial cable and conduit or duct line shall have a minimum cover of 24 inches from the finished grade, unless otherwise indicated.

3.14 SUBGRADE PREPARATION

3.14.1 Proof Rolling

Proof rolling shall be done on an exposed subgrade free of surface water (wet conditions resulting from rainfall) which would promote degradation of an otherwise acceptable subgrade. After stripping, proof roll the existing subgrade with six passes of a dump truck loaded with 4 cubic yards of soil. Operate the truck in a systematic manner to ensure the number of

passes over all areas, and at speeds between 2 1/2 to 3 1/2 mph. Notify the Contracting Officer a minimum of 3 days prior to proof rolling. Proof rolling shall be performed in the presence of the Contracting Officer. Rutting or pumping of material shall be undercut as directed by the Contracting Officer and replaced with select material.

3.14.2 Construction

Subgrade shall be shaped to line, grade, and cross section, and compacted as specified. This operation shall include plowing, disking, and any moistening or aerating required to obtain specified compaction. Soft or otherwise unsatisfactory material shall be removed and replaced with satisfactory excavated material or other approved material as directed. Rock encountered in the cut section shall be excavated to a depth of 6 inches below finished grade for the subgrade. Low areas resulting from removal of unsatisfactory material or excavation of rock shall be brought up to required grade with satisfactory materials, and the entire subgrade shall be shaped to line, grade, and cross section and compacted as specified. The elevation of the finish subgrade shall not vary more than 0.05 foot from the established grade and cross section.

3.14.3 Compaction

Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment. Except for paved areas and railroads, each layer of the embankment shall be compacted to at least 95 percent of laboratory maximum density.

3.14.3.2 Subgrade for Pavements

Subgrade for pavements shall be compacted to at least 95 percentage laboratory maximum density for the depth below the surface of the pavement shown. When more than one soil classification is present in the subgrade, the top 4 inches of subgrade shall be scarified, windrowed, thoroughly blended, reshaped, and compacted.

3.16 FINISHING

The surface of excavations, embankments, and subgrades shall be finished to a smooth and compact surface in accordance with the lines, grades, and cross sections or elevations shown. The degree of finish for graded areas shall be within 0.1 foot of the grades and elevations indicated except that the degree of finish for subgrades shall be specified in paragraph SUBGRADE PREPARATION. Gutters and ditches shall be finished in a manner that will result in effective drainage. The surface of areas to be turfed shall be finished to a smoothness suitable for the application of turfing materials. Settlement or washing that occurs in graded, topsoiled, or backfilled areas prior to acceptance of the work, shall be repaired and grades re-established to the required elevations and slopes.

3.16.1 Subgrade and Embankments

During construction, embankments and excavations shall be kept shaped and drained. Ditches and drains along subgrade shall be maintained to drain effectively at all times. The finished subgrade shall not be disturbed by traffic or other operation and shall be protected and maintained by the Contractor in a satisfactory condition until ballast, subbase, base, or

pavement is placed. The storage or stockpiling of materials on the finished subgrade will not be permitted. No subbase, base course, ballast, or pavement shall be laid until the subgrade has been checked and approved, and in no case shall subbase, base, surfacing, pavement, or ballast be placed on a muddy, spongy, or frozen subgrade.

3.16.2 Capillary Water Barrier

Capillary water barrier under concrete floor and area-way slabs on grade shall be placed directly on the subgrade and shall be compacted with a minimum of two passes of a hand-operated plate-type vibratory compactor.

3.16.3 Grading Around Structures

Areas within 5 feet outside of each building and structure line shall be constructed true-to-grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted.

3.17 PLACING TOPSOIL

On areas to receive topsoil, the compacted subgrade soil shall be scarified to a 2 inch depth for bonding of topsoil with subsoil. Topsoil then shall be spread evenly to a thickness of 6 inches and graded to the elevations and slopes shown. Topsoil shall not be spread when frozen or excessively wet or dry. Material required for topsoil in excess of that produced by excavation within the grading limits shall be obtained from offsite areas.

3.18 TESTING

Testing shall be performed by an approved commercial testing laboratory or by the Contractor subject to approval. If the Contractor elects to establish testing facilities, no work requiring testing will be permitted until the Contractor's facilities have been inspected and approved by the Contracting Officer. Field in-place density shall be determined in accordance with ASTM D 1556, ASTM D 2167, ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using only the sand cone method as described in ASTM D 1556. ASTM D 2922 results in a wet unit weight of soil and when using this method ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall also be checked along with density calibration checks as described in ASTM D 3017; the calibration checks of both the density and moisture gauges shall be made at the beginning of a job on each different type of material encountered and at intervals as directed by the Contracting Officer. ASTM D 2937, Drive Cylinder Method shall be used only for soft, fine-grained, cohesive soils. When test results indicate, as determined by the Contracting Officer, that compaction is not as specified, the material shall be removed, replaced and recompacted to meet specification requirements. Tests on recompacted areas shall be performed to determine conformance with specification requirements. Inspections and test results shall be certified by a registered professional civil engineer. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each type operation.

3.18.1 Fill and Backfill Material Gradation

One test per 50 cubic yards stockpiled or in-place source material. Gradation of fill and backfill material shall be determined in accordance with ASTM C 136, ASTM D 422, and ASTM D 1140.

3.18.2 In-Place Densities

In-situ density tests shall conform to ASTM D 2922 and shall be conducted every 500 square feet, or fraction thereof, of each lift of fill or backfill areas.

3.18.4 Moisture Contents

In the stockpile, excavation, or borrow areas, a minimum of two tests per day per type of material or source of material being placed during stable weather conditions shall be performed. During unstable weather, tests shall be made as dictated by local conditions and approved by the Contracting Officer.

3.18.5 Optimum Moisture and Laboratory Maximum Density

Tests shall be made in accordance with ASTM D 1557, for each type material or source of material including borrow material to determine the optimum moisture and laboratory maximum density values. One representative test per 50 cubic yards of fill and backfill, or when any change in material occurs which may affect the optimum moisture content or laboratory maximum density.

3.18.6 Tolerance Tests for Subgrades

Continuous checks on the degree of finish specified in paragraph SUBGRADE PREPARATION shall be made during construction of the subgrades.

3.18.7 Displacement of Sewers

After other required tests have been performed and the trench backfill compacted to the finished grade surface, the pipe shall be inspected to determine whether significant displacement has occurred. This inspection shall be conducted in the presence of the Contracting Officer. Pipe sizes larger than 36 inches shall be entered and examined, while smaller diameter pipe shall be inspected by shining a light or laser between manholes or manhole locations, or by the use of television cameras passed through the pipe. If, in the judgement of the Contracting Officer, the interior of the pipe shows poor alignment or any other defects that would cause improper functioning of the system, the defects shall be remedied as directed at no additional cost to the Government.

3.19 DISPOSITION OF SURPLUS MATERIAL

Surplus material or other soil material not required or suitable for filling or backfilling, and brush, refuse, stumps, roots, and timber shall be removed from Government property as directed by the Contracting Officer.

-- End of Section --

SECTION 03150

EXPANSION JOINTS (Stadium Seating Area)

PART 1 GENERAL

1.1 SCOPE OF WORK

New expansion joints are to be provided in the existing concrete portion of the stadium seating area replacing the existing joints.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D-570	Standard Test Method for Water Absorption of Plastics
ASTM D-624	Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
ASTM D-695	Standard Test Method for Compressive Properties of Rigid Plastics
ASTM C-882	(1999) Standard Test Method for Bond Strength of Epoxy Resin Systems Used with Concrete by Slant Shear
ASTM D-1056	Standard Test Method for Flexible Cellular Materials/Sponge or Expanded Rubber, Suffix L
ASTM D-3575	(1991) Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers, Suffix A
ASTM D-3575	(1991) Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers, Suffix G
ASTM D-3575	Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers, Suffix L
ASTM D-3575	(1991) Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers, Suffix T
ASTM D-3575	(1991) Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers, Suffix W

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings; G, AE

Preformed Expansion Joint Filler, G, AE,

Shop drawings and fabrication drawings provided by the manufacturer or prepared by the Contractor.

SD-03 Product Data

Preformed Expansion Joint Filler;G, AE

Manufacturer's literature, including safety data sheets, for preformed fillers and the lubricants used in their installation; field-molded sealants and primers Manufacturer's recommended instructions for installing preformed fillers.

1.3 DELIVERY AND STORAGE

Material delivered and placed in storage shall be stored off the ground and protected from moisture, dirt, and other contaminants. Sealants shall be delivered in the manufacturer's original unopened containers. Sealants whose shelf life has expired shall be removed from the site.

1.4 QUALITY ASURANCE

The manufacture requires a certified trained factory representative to be present for the installation and mixing procedures with not less than three years of experience. The joint shall be installed in accordance with the manufacturer's installation process.

PART 2 PRODUCTS

2.2 PREFORMED EXPANSION JOINT FILLER

The expansion joint filler has been specified utilizing Capitol Services (518-344-7777) MetalZeal preformed expansion joint material specifications. Or equal products will be reviewed and judged by the criteria listed below and by the critical aspects of the product as follows: filler material must be preformed material and all changes in the vertical and horizontal surfaces must be factory preformed units with no visable seams. The material shall be UV stable, preformed, impermeable, flexible, expansion joint material that is a low density , closed cell, cross linked polyethylene, with 1/8 inch x 1/8 inch grooves with 1/4 inch spacing on the vertical surface of the bond line. Required adhesive requirements are listed below.

2.2.1 Properties

Property	Test	Result
Density	ASTM D-3575-91, Suffix W Method A	45 (kg/m3) 2.8 (lb/ft3)
Tensile Strength	ASTM D-3575-91 Suffix T	50/60 (kPa/psi)
Water Absorption	ASTM D-3575 Suffix L	0.02 (lb./ft2)
Compression Set	ASTM D-1056, Suffix L	21%
Elongation @ Break	ASTM D-3575	150%
Tear Strength	ASTM D-624 (D-3575-91 Suffix G	(NH/m/psi)
Toxity	ISO-10993.5	Pass(not cytotoxic)

2.2.2 System Requirements

- a. Contain ultra-violet stable carbon black
- b. Able to withstand temperatures of -30 degrees C to 40 degrees C
- c. Adhered to the substrate with two component, 100% solid modified epoxy adhesive
- d. Chemical resistance to gasoline and salts
- e. Working range of 60% compression and 30% tension
- f. Material shall not protrude or deflect from its original state +/-1/4" during compression and tension cycles

2.3 EPOXY ADHESIVE

Adhesive shall be a two part, 100% solid modified epoxy

2.31 Adhesive Properties

Property	Test	Result
Tensile Strength	ASTM D-638	4000 psi (min)
Bond Strength	ASTM C-882 2 day/14 day	2750/2950 psi
Compression Set	ASTM D-695	9500 psi
Elongation @ Break	ASTM D-638	1%
Hardness (Shore D scale) (D-3575-91 Suffix G		81
Water Absorption	ASTM D-570	.25% (by weight) xic)
Modulus	ASTM D-638	9825,000 psi

PART 3 EXECUTION

3.1 JOINTS

Joints shall be installed at locations indicated and as authorized.

3.1.2 Expansion Joints

- 3.1.2.1 A four person crew is necessary. Two people are required to apply the joint adhesive and two people will be inserting the joint material into the joint.
- 3.1.2.2 Place the expansion joint material lengthwise next to the expansion joint.
- 3.1.2.3 VERIFY THAT THE JOINT MATERIAL IS 25% WIDER THAN THE JOINT.
- 3.1.2.4 Refer to the manufacturer's instructions for cold and hot weather installation.
- 3.1.2.5 Open both cans of the bonding agent and mix with a low speed (400 rpm) until a uniform "grey" color is achieved. No visible marbling. Mix only full units at a time.
- 3.1.2.6 With gloved hands compress the joint material and push it into the joint until it is recessed from the finished surface (i.e. Concrete coating) 1/16 to 1/8 inch below the surface. When pushing down on the material , exert pressure only in a downward direction. Material pressed at an angle will stretch.
- 3.1.2.7 Once a joint has been started, do not stop until it has been completed.
- 3.1.2.8 A margin trowel may be used to clean the excess epoxy from the filler. This must be done immediately.

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